110. In other embodiments, touch sensitive cover **410** may include other materials, such as plastic or composite material. In each case, touch sensitive cover **410** may include a surface, (e.g., a single surface) located over keypad area **110** and forming part of keypad area **110**. As described above, position sensing logic **340** may include a transparent film may be placed on touch sensitive cover **410** or placed underneath touch sensitive cover **410** in order to sense a position of an input (touch).

[0057] Enclosure **420** may include an enclosed area for holding or containing liquid **430** and ultrasonic element **440**. For example, enclosure **420** may be formed of a clear plastic material. Enclosure **420** may contact the bottom surface of touch sensitive cover **410** so that vibrations created within enclosure **420** may be transmitted to touch sensitive cover **410**.

[0058] Liquid **430** may include any type of liquid, such as water, and/or a mixture, etc. Liquid **430** may be used to provide a medium in which to transmit ultrasonic vibrations that may be provided or created by ultrasonic element **440**.

[0059] Ultrasonic element **440** may include electromechanical mechanisms that produce ultrasonic vibrations. For example, ultrasonic element **440** may receive an electrical signal from ultrasonic element activation logic **350** may provide/produce an ultrasonic vibration in response to the received signal. Ultrasonic element **440** may include a mechanism such as a piezo-electric element, for example. Ultrasonic element **440** may be included within enclosure **420**. When ultrasonic element **440** produces an ultrasonic vibration, the vibration may be transmitted through enclosure **420** to give the user tactile feedback that a key input has been received by terminal **100**. In this exemplary implementation, ultrasonic element **440** is located at the edge of enclosure **420** so as not to obstruct characters displayed via display screen **450**. In other exemplary implementations, multiple ultrasonic elements **440** may be used and may be located at other positions within terminal **100**. For example, there may be multiple ultrasonic elements **440** strategically located to provide greater/stronger tactile feedback depending on where the user presses down. For example, keypad area **110** may be divided into four quadrants, where an ultrasonic element **440** may be located in each quadrant. The ultrasonic element **440** located in the quadrant that receives a touch input may be activated in order to provide a stronger vibration to the user as the ultrasonic wave may be less dispersed.

[0060] Display screen **450** may include an LCD or similar type of display. Display screen **450** may display characters based on signals received from display logic **320**. As shown in FIG. **4**B for example, display screen **450** may display keys **112**A-**112**L, which may be seen by a user through touch sensitive cover **410**. Operation of the key input system shown in FIGS. **4**A-**4**B is described below with reference to FIG. **5**.

[0061] FIG. **5** is a flowchart of exemplary processing consistent with the principles described herein. Terminal **100** may provide a keypad configuration as shown in FIG. **1**. Process **500** may begin when a position of input may be sensed (block **510**). As shown in FIG. **4**B for example, a user's finger may be located over (and contacting touch sensitive cover **410**) key **112**F within keypad area **110**. As described above, the position of the user's finger may be sensed by a capacitive film that sends a signal to position sensing logic **340**.

[0062] While a user's finger is touching one of keys **112** within keypad area **110**, ultrasonic element **440** may be activated (block **520**). For example, position sensing logic **340** may send a signal to ultrasonic element activation logic **350** indicating that a user is currently touching one of keys **112** within keypad area **110**. In response to this signal, ultrasonic element activation logic **350** may send a signal to ultrasonic element **440**. The activation of ultrasonic element **440** may cause an ultrasonic vibration/signal to be sent through liquid **430**. The ultrasonic vibration produced within enclosure **420** may be felt by the user while touching keypad area **110**. The ultrasonic vibration may provide tactile feedback to the user indicating that terminal **100** has received the user's intention to enter associated information with one of keys **112**. That is, the vibration within enclosure **420** may be transmitted through liquid **430** and sensed at the upper surface of touch sensitive cover **410** to provide tactile feedback to the user.

[0063] After activating the ultrasonic element **440** and receiving an input signal on keypad area **110**, the sensed position signal may be processed to determine a key input (block **530**). As shown in FIG. **4**B for example, if the position of a user's finger is contacting the "6" key **112**F in keypad area **110**, position sensing logic **340** may receive signals from a capacitive film on touch sensitive cover **410**. In response to the received signals from the capacitive film, position sensing logic **340** may determine that the number "6" has been entered by the user.

[0064] In response to determining the key input (block **530**), the associated information with the determined key input may be displayed (block **540**). For example, if position sensing logic **340** determines that key **112**F is actuated, a signal may be sent to display logic **320** and control logic **310** in order to display the number "6" via display **140**. In this manner, a user may be given tactile feedback relating to entered information and also visual feedback.

[0065] In further examples, the "2" key (**112**B) may be associated with the letters "a," "b" and "c," in which case, three successive inputs on touch sensitive cover **410** may be sensed while the user's finger is determined to be located on key **112**B, in order for position sensing logic **340** to determine that a "c" is the desired character to be entered by a user (block **510**). In this example, ultrasonic element **440** may be activated (block **520**) after each successive input of the **112**B key, in order to provide tactile feedback to the user that each successive key input has been received. That is, the user may receive three separate vibrations/indications indicating that the **112**B key was pressed three separate times.

CONCLUSION

[0066] Implementations consistent with the principles described herein may provide tactile feedback to a user, via a keypad that includes a single surface or cover.

[0067] The foregoing description of preferred embodiments of the embodiments provides illustration and description, but is not intended to be exhaustive or to limit the embodiments to the precise form disclosed. Modifications and variations are possible in light of the above teachings or may be acquired from practice of the embodiments.

[0068] While a series of acts has been described with regard to FIG. **5**, the order of the acts may be modified in other implementations consistent with the principles of the embodiments. Further, non-dependent acts may be performed in parallel.

[0069] It will be apparent to one of ordinary skill in the art that aspects of the embodiments, as described above, may be implemented in many different forms of software, firmware,